## **IOWA** Department of REVENUE

NOTICE: The Iowa Leading Indicators Index underwent an annual update between the release of the June and July 2009 reports. As part of that update, the calculations of two components were altered, reducing the level of the ILII over the entire history of the index and tempering the peak observed in early 2008. The change also increased the magnitude of the drops in the index over the last six months.

The first change was made to the Agricultural Futures Price Index (AFPI). The AFPI was originally an index of corn and soybean futures prices and hog and cattle estimated profits. To account for rising costs of production for grain farmers, breakeven series for corn and soybeans were incorporated into the AFPI. This change is also reflected in the components' values presented in Table 2.

The second change was made to the Iowa stock market index where the stock for a banking company was removed in anticipation of its sale or merger. In addition, large changes to the shares outstanding of two other companies were incorporated.

To read more about the changes to the ILII, please refer to *Iowa Leading Indicators Index: Third Annual Assessment and Update* which can be found at: http://www.iowa.gov/tax/taxlaw/econindicators.html



## Iowa Leading Indicators Index July 2009 Report

Tax Research and Program Analysis Section

The Iowa Leading Indicators Index (ILII) fell to 95.2 (100=1999) in July 2009 from a revised 95.9 in June. The Iowa non-farm employment coincident index fell by -0.26 percent for the month, the ninth consecutive monthly decrease.

The ILII's value decreased 0.6 percent in July after decreasing a revised 0.5 percent drop in June, the sixteenth monthly decline in the index since reaching a peak in March 2008. During the six-month span through July, the ILII dropped 5.5 percent (a -11.0 percent annual rate). The six-month diffusion index (value of 12.5) reflects an increase of 0.5 percent or greater in the yield spread over the last half year, while the other seven components experienced a 0.5 percent or greater decrease.

In July, two of the eight Iowa Leading Indicators components increased. The positive contributors were the new orders index and new residential building permits. Negative contributors were the agricultural futures price index, unemployment insurance claims (inverted), average weekly manufacturing hours, diesel fuel consumption, the Iowa stock market index, and the yield spread.

Index (1999=100) 108 ILII 106 Non-Farm Employment Index 104 102 100 98 96 94 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08 Jan-09

Month and Year

Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: January 1999-July 2009

Table 1. Iowa Leading Indicators Index: Six Month Overview

	2009					
Monthly Values	February	March	April	May	June	July
ILII	99.5	98.2	97.1	96.3	95.9	95.2
Percentage Change <sup>a</sup>	-1.3%	-1.3%	-1.1%	-0.8%	-0.5%	-0.6%
Diffusion Index <sup>b</sup>	12.5	6.3	12.5	12.5	37.5	25.0
	Aug to	Sept to	Oct to	Nov to	Dec to	Jan to
Six-Month Values	February	March	April	May	June	July
ILII						
Percentage Change	-5.6%	-6.3%	-7.0%	-6.8%	-5.9%	-5.5%
Annualized Percentage Change	-11.2%	-12.6%	-14.0%	-13.7%	-11.8%	-11.0%
Diffusion Index	12.5	12.5	0.0	0.0	12.5	12.5

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 28, 2009.

Table 2. Iowa Leading Indicators Index Components: Six Month Overview

		2009					
Component Series Monthly Values <sup>a</sup>	_	February	March	April	May	June	July
AFPI <sup>b</sup>	↓°						
Corn Profits (cents per bushel)	•	230.8	212.0	190.2	170.7	140.5	107.6
Soybean Profits (cents per bushel)		451.0	397.4	356.9	322.2	275.8	220.0
Hog Profits (cents per pound)		12.8	13.3	13.1	11.8	10.7	9.4
Cattle Profits (cents per pound)		-9.2	-9.5	-9.2	-9.2	-9.4	-9.4
Iowa Stock Market Index (10=1984-86)	$\downarrow$	55.49	53.07	51.06	49.84	48.75	48.13
Yield Spread (10-year less 3-month)	<b>↓</b>	2.57	2.60	2.77	3.11	3.54	3.38
Building Permits	<b>↑</b>	603	582	558	539	545	557
Average Weekly Unemployment Claims <sup>d</sup>	<b>↓</b>	5,789	6,273	6,648	6,964	7,114	7,440
Average Weekly Manufacturing Hours	$\downarrow$	39.2	39.0	38.7	38.5	38.4	38.3
New Orders Index (percent)	<b>↑</b>	37.4	35.2	33.3	32.9	34.6	36.0
Diesel Fuel Consumption (mil gallons)	1	54.50	53.94	53.65	53.24	52.69	52.40

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 28, 2009.

a. Percentage changes in the ILII do not always equal changes in the level of the ILII due to rounding.

b. A diffusion index measures the proportion of components that are rising based on the actual changes (not the standardized contributions to the ILII). Components experiencing increases greater than 0.05 percent are assigned a value of 1.0, components that experience changes less than an absolute value of 0.05 percent are assigned a value of 0.5, and components experiencing decreases greater than 0.05 percent are assigned a value of 0.0.

a. For all component series except for the yield spread (the only national series) the values represent 12-month backward moving averages.

b. The agricultural futures price index is computed as the sum of the standardized symmetric percent changes in the four series, each weighted by the commodity's annual share of lowa cash farm income (updated August 21, 2009).

c. Arrows indicate the direction of the series' contribution to the ILII for the latest month.

d. Changes in unemployment claims are inverted when added to the ILII, thus a negative change in the series contributes positively to the index.

## **ILII Components**

- New orders index: Diffusion index measuring the share of purchasing managers in Iowa reporting increases in orders received for manufacturing output. Changes are calculated based on a 12-month moving average. In July 2009 the index dipped to 55.0 from 55.9 in June, but remained above the 38.2 reported in July 2008, raising the 12-month moving average of the index and contributing 0.09 to the ILII.
- **Building permits:** Number of total permits issued in Iowa for the construction of residential housing units. Changes are calculated based on a 12-month moving average. During July 2009 this component contributed 0.07 to the ILII value. July 2009 permits were 21.5 percent higher than July 2008 permits, pushing the 12-month moving average up by 2.1 percent. However, July 2009 permits remained 36.8 percent below the 1998 to 2008 historical average for the month.
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury notes. During July, the yield spread decreased as the long-term rate fell 16 basis points while the short-term rate remained flat. This component contributed -0.05 to the ILII.
- **Iowa stock market index:** Capitalization-weighted index of 34 Iowa-based or Iowa-concentrated publicly-traded companies. Changes are calculated based on a 12-month moving average. During July, 16 of the 34 companies gained value including 8 of 12 financial-sector companies. The index contributed -0.08 to the ILII value.
- **Diesel fuel consumption:** Number of taxable gallons of diesel fuel sold in Iowa. Changes are calculated based on a 12-month moving average. During July 2009 this component's contribution to the ILII value was -0.09 as diesel fuel consumption for the month decreased 6.4 percent relative to the prior year.
- Average weekly manufacturing hours: Weekly average of hours worked in the manufacturing sector in Iowa. Changes are calculated based on a 12-month moving average. During July 2009 this component contributed -0.10 to the ILII value as July hours were 3.7 percent below the July 2008, pushing the 12-month moving average down by 0.3 percent.
- Average weekly unemployment claims: Weekly average of initial claims for unemployment insurance in Iowa. Changes are calculated based on a 12-month moving average and are inverted when added to the ILII. During July 2009 this component contributed -0.15 to the ILII value with unemployment claims 100.0 percent above July 2008 claims.
- Agricultural futures price index: Composite measure of corn, soybean, hog, and cattle expected profits weighted by the respective share of annual Iowa cash farm income. Changes are calculated based on a 12-month moving average of the futures price series less estimated breakeven costs. During July, this component contributed -0.34 to the ILII value as the 12-month moving average of corn, soybean, and hog profits all dropped while cattle profits held steady.

Table 3. ILII Components and Standardization Factors for FY 2010

Leading Indicator Index Components	Standardization Factor		
Agricultural Futures Price Index	0.052		
Iowa Stock Market Index	0.059		
Yield Spread	0.289		
Building Permits	0.034		
Average Weekly Unemployment Claims	0.033		
Average Weekly Manufacturing Hours	0.298		
New Orders Index	0.064		
Diesel Fuel Consumption	0.171		

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 21, 2009. The standardization factors are the inverse of the standard deviation of the month-to-month changes in each component over the January 1999 to June 2009 period. These factors equalize the volatility of the contribution from each component and are normalized to one. The month-to-month changes are based on 12-month backward moving averages for all components except the yield spread, which is the only national series. The yield spread and new orders index changes are simple arithmetic changes; month-to-month changes for the rest of the components are computed as symmetric percentage changes. The factors are updated annually during the summer.

## Comments

The Iowa Leading Indicators Index is designed to forecast the likely future direction of economic activity in the State of Iowa. The techniques used to build the ILII follow those used by The Conference Board to construct the national leading indicators index. A movement in the ILII for only one month does not produce a clear signal, rather it is necessary to consider the direction of the index over several consecutive months. The Conference Board considers a contraction signal in the national leading indicators index reliable when two conditions are met: 1. the index declines by at least two percent over a six month period (using an annual rate); and, 2. a majority of the individual components decline over those six months (six-month diffusion index less than 50.0).

The Iowa Non-Farm Employment Coincident Index measures the change in non-farm employment of all workers in the State of Iowa. Changes are based on a 12-month moving average of employment and are computed as symmetric percentage changes. The index is a representation of economic activity in Iowa.

The Employment Index and the ILII are constructed to have a value of 100 in the year 1999.